



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,615	03/22/2004	Takaaki Ota	SONY-50R4614.CIP	2638
7590 01/16/2008 WAGNER, MURABITO & HAO LLP Third Floor Two North Market Street San Jose, CA 95113			EXAMINER TAYLOR, JOSHUA D	
			ART UNIT	PAPER NUMBER
			4157	
			MAIL DATE	DELIVERY MODE
			01/16/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/806,615

**Applicant(s)**

OTA ET AL.

**Examiner**

JOSHUA TAYLOR

**Art Unit**

4157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

***Claim Objections***

Claims 7, 22 and 24 are objected to, because changing a channel implies two different channels, and thus if the transport streams are the same, the channel is not being changed.

The applicant has claimed:

As per claim 7, "a method as described in claim 1 wherein said first transport stream and said second transport stream are the same and wherein said first frequency and said second frequency are the same."

As per claim 22, "a method as described in claim 17 wherein said first transport stream and said second transport stream are the same."

As per claim 24, "a method as described in claim 23 wherein said first transport stream comprises said second program."

An appropriate correction is required.

**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 7, 23, 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Wrice (U.S. 6,950,151 B1).

Regarding claim 1, Wrice discloses:

A method for displaying digital content comprising:

using a first tuner to access a first transport stream associated with a first frequency;  
displaying in a main picture area of a display screen, a program associated with said first transport stream (column 2, lines 53-55);

using a second tuner during spare periods to access a second transport stream associated with a second frequency (column 2, lines 37-40; Wrice states "a large number of incoming TV channels," which implies at least a second);

decoding digital content from said second transport stream and caching said digital content into a memory buffer (column 2, lines 45-49);

and upon said first tuner being switched to a new channel associated with said program information stored in said memory buffer, recalling said digital content for use in providing a fast channel change operation to said new channel (column 2, line 66 to column 3, line 5).

Claim 7 is a method as described in claim 1 wherein said first transport stream and said second transport stream are the same and wherein said first frequency and said second frequency are the same. For examination purposes, the examiner interpreted the claim as reading, "wherein the first transport stream and said second transport stream are different and wherein said first frequency and said second frequency are different," because if they are the same, then a channel change has not occurred. Thus, the claim is rejected on the same grounds as claim 1.

Regarding claim 23, Wrice discloses:

A method for displaying digital content comprising:

using a first tuner and a first decoder to access and decode a first transport stream associated with a first frequency (column 2, lines 53-55);

displaying in a main picture area of a display screen, a program associated with said first transport stream (column 2, lines 53-55);

using a second decoder to decode a second program (column 2, lines 37-40),

upon a channel change to a new channel associated with said second program, using said second decoder to display in said main picture area of said display screen said

Art Unit: 2626

second program to provide a fast channel operation to said new channel (column 2, line 66 to column 3, line 5).

Claim 24 is a method as described in claim 23 wherein said first transport stream comprises said second program. For examination purposes, the examiner interpreted the claim as reading, "wherein the first transport stream comprises said first program," because if the channels being switched between are the same, then a channel change has not occurred. Thus, the claim is rejected on the same grounds as claim 23.

Regarding claim 26, Wrice discloses:

A method as described in claim 23 wherein said second program is associated with a second transport stream and further comprising: using a second tuner to access said second transport stream. This is rejected for the same reasons as claim 23.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a

whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 8-22, 25, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wrice in view of Reitmeier (US 6,115,080).

Regarding claim 2, Wrice discloses the method of claim 1, but does not disclose further comprising wherein said second tuner is normally dedicated to picture-in-picture rendering on said display screen. However, Reitmeier does. In column 4, lines 34-37 it states "the circuitry (or software) used to implement a PIP processor is very similar to the circuitry (or software) used to provide the channel scanning and rapid channel acquisition functions of the invention." Therefore, one skilled in the art would have found it obvious to dedicate the second tuner to picture-in-picture rendering on said display screen. Dedicating the second tuner to picture-in-picture would have been a desirable feature because it allows a viewer to keep track of what is happening on two channels at once, and if the second data stream is available for viewing, it is very simple to display it in the picture-in-picture area.

Claim 3 is a method as described in claim 2 wherein said digital content comprises table information associated with said second transport stream. This is disclosed in Reitmeier, column 14, lines 26-40, where he states that there is a standard manner for

extracting program map tables; i.e. table information, from a transport stream.

Therefore, it would have been obvious to one of ordinary skill in the art to extract table information. Because one skilled in the art would know that table information is often associated with a transport stream, it would be desirable to combine this element into the method of claim 1 so that said table information could be accessed.

Claim 4 is a method as described in claim 3 wherein said table information is derived from a program association table that is encoded in said second transport stream. This is disclosed in Reitmeier, column 14, lines 26-40, where he states that there is a standard manner for extracting program map tables; i.e. program association tables, from a transport stream. Therefore, it would be obvious to one skilled in the art to extract program association tables. It would be desirable to combine this element into the method of claim 3 in order to be able to have access to the table information.

Claim 5 is a method as described in claim 2 wherein said digital content comprises decoded I frames of said new channel. This is disclosed in Reitmeier, column 5, lines 44-67. With the digital video compression techniques commonly used at the time of the invention, it is necessary to have an I frame to view a complete image, and so if the intent is to display a complete image from a digital stream, an I frame is necessary. Therefore, it would have been obvious to one skilled in the art to combine this with claim 2 in order to be able to display a complete image using the technology in use at the time of the invention.



Claim 6 is a method as described in claim 2 further comprising:

using said second tuner to scan through a plurality of frequencies over time to access a plurality of transport streams (Wife, column 2, lines 37-40);

decoding digital content from said plurality of transport streams (Wife, column 2, lines 53-55);

and caching said digital content decoded from said plurality of transport streams in said memory buffer. This is disclosed in Wife, column 2, lines 49-51. This claim is rejected on the same grounds as claim 2, as one skilled in the art would have found it obvious to dedicate the second tuner to picture-in-picture rendering on said display screen.

Dedicating the second tuner to picture-in-picture would have been a desirable feature because it allows a viewer to keep track of what is happening on two channels at once, and if the second data stream is available for viewing, it is very simple to display it in the picture-in-picture area.

Claim 8 is a method as described in claim 2 wherein said digital content cached to said memory buffer is associated with a channel that is a predicted next channel which is predicted based on previous channel selections. This is disclosed in Reitmeier, Claim 2, "storing, in a scanning mode of operation, image information from one or more logical channels associated with a presently selected physical channel." Therefore, it would have been obvious to a person skilled in the art at the time of the invention to have the channels in the memory buffer predicted based on a previous channel selection. This

would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Claim 9 is a method for displaying digital content comprising: using a first tuner to access a first transport stream associated with a first frequency; displaying in a main picture area of a display screen, a program associated with said first transport stream (Wrief, column 2, lines 53-55);

using a second tuner to access a second transport stream associated with a second frequency (Wrief, column 2, lines 37-40);

decoding first digital content from said second transport stream and caching said first digital content into a memory buffer (Wrief, column 2, lines 45-49);

using a third tuner to access a third transport stream associated with a third frequency (Reitmeier, column 15, lines 30-38;);

decoding second digital content from said third transport stream and caching said second digital content into said memory buffer (Wrief, column 2, lines 45-49);

and upon a channel change to a new channel associated with said second or third tuner, recalling digital content from said memory buffer for use in providing a fast channel change operation to said new channel (Wrief, column 2, line 66 to column 3, line 5). Wrief does not disclose using a third tuner, but Reitmeier does. Therefore, it would have been obvious to one skilled in the art at the time of the invention to use multiple tuners. It would be desirable to use as many tuners as were available, so as to

maximize the number of buffered channels and increase the likelihood of decreased channel change time.

Claim 10 is the method of claim 9 wherein said second tuner is normally dedicated for picture-in-picture rendering on said display screen. This is disclosed in Reitmeier, column 4, lines 34-37. Therefore, one skilled in the art would have found it obvious to dedicate the second tuner to picture-in-picture rendering on said display screen. Dedicating the second tuner to picture-in-picture would have been a desirable feature because it allows a viewer to keep track of what is happening on two channels at once, and if the second data stream is available for viewing, it is very simple to display it in the picture-in-picture area.

Claim 11 is a method as described in claim 9 wherein in response to a channel change to said third tuner, performing the following: using said third tuner to access said third transport stream; displaying in said main picture area of said display screen, said new channel associated with said third transport stream; using said first tuner to access a fourth transport stream associated with a fourth frequency; and decoding digital content from said fourth transport stream and caching said digital content into said memory buffer. Wribe does not disclose using a third tuner, but Reitmeier does in column 15, lines 30-38. Therefore, it would have been obvious to one skilled in the art at the time of the invention to use multiple tuners. It would be desirable to use as many tuners as

were available, so as to maximize the number of buffered channels and increase the likelihood of decreased channel change time.

Claim 12 is a method as described in claim 9 wherein said digital content comprises decoded I-frames of said new channel. This is disclosed in Reitmeier, column 5, lines 44-67, and would be obvious to one skilled in the art to combine this with claim 9. With the digital video compression techniques commonly used at the time of the invention, it is necessary to have an I frame to view a complete image, and so if the intent is to display a complete image from a digital stream, an I frame is necessary.

Claim 13 is a method as described in claim 12 wherein said digital content further comprises table information associated with said third transport stream. This is disclosed in Reitmeier, column 14, lines 26-40. Because one skilled in the art would know that table information is often associated with a transport stream, it would be desirable to combine this element into the method of claim 12 so that said table information could be accessed.

Claim 14 is a method as described in claim 9 further comprising: using said third tuner to scan through a plurality of frequencies over time to access a plurality of transport streams; decoding digital content from said plurality of transport streams; and caching said digital content decoded from said plurality of transport streams to said memory buffer. This is disclosed in Reitmeier, column 15, lines 30-38. Therefore, it would have

been obvious to one skilled in the art at the time of the invention to use multiple tuners. It would be desirable to use as many tuners as were available, so as to maximize the number of buffered channels and increase the likelihood of decreased channel change time.

Claim 15 is a method as described in claim 9 wherein said second digital content cached to said memory buffer is associated with a channel that is a predicted next channel which is predicted based on previous channel selections. This is disclosed in Reitmeier, Claim 2. Therefore, it would have been obvious to a person skilled in the art at the time of the invention to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Claim 16 is a method as described in claim 15 wherein said first digital content cached to said memory buffer is associated with another channel that is a predicted next channel which is predicted based on previous channel selections. This is disclosed in Reitmeier, Claim 2. Therefore, it would have been obvious to a person skilled in the art at the time of the invention to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Claim 17 is a method for displaying digital content comprising: using a first tuner to access a first transport stream associated with a first frequency; displaying in a main picture area of a display screen, a program associated with said first transport stream; using a second tuner to access a second transport stream associated with a second frequency; decoding table information from said second transport stream and caching said table information into a memory buffer, said table information comprising program identifications for programs of said second transport stream; and upon a channel change to a new channel associated with said second transport stream, recalling said table information for use in providing a fast channel change operation to said new channel. This claim is rejected on the same basis as claim 1, in view of Reitmeier, column 14, lines 26-40. Because one skilled in the art would know that table information is often associated with a transport stream, it would be desirable to combine this element into this method so that said table information could be accessed.

Claim 18 is a method as described in claim 17 further comprising: decoding I-frames associated with programs of said second transport stream; and caching said I-frames to said memory buffer; and upon said channel change to said new channel, also recalling cached I-frames for use in providing said fast channel change operation to said new channel. This is disclosed in Reitmeier, column 5, lines 44-67, and would be obvious to one skilled in the art to combine this with claim 17. With the digital video compression techniques commonly used at the time of the invention, it is necessary to

have an I frame to view a complete image, and so if the intent is to display a complete image from a digital stream, an I frame is necessary.

Claim 19 is a method as described in claim 17 wherein said second tuner is normally dedicated to picture-in-picture rendering on said display screen. This is disclosed in Reitmeier, column 4, lines 34-37. Therefore, one skilled in the art would have found it obvious to dedicate the second tuner to picture-in-picture rendering on said display screen. Dedicating the second tuner to picture-in-picture would have been a desirable feature because it allows a viewer to keep track of what is happening on two channels at once, and if the second data stream is available for viewing, it is very simple to display it in the picture-in-picture area.

Claim 20 is a method as described in claim 17 further comprising: using said second tuner to also scan through a plurality of frequencies over time to access a plurality of transport streams; and decoding and caching a plurality of table informations from said plurality of transport streams to said memory buffer. This is disclosed in Reitmeier, column 15, lines 30-38. Because one skilled in the art would know that table information is often associated with a transport stream, it would be desirable to combine this element into this method so that said table information could be accessed.

Claim 21 is a method as described in claim 17 wherein said new channel is a predicted next channel predicted based on prior channel selections. This is disclosed in

Reitmeier, Claim 2. Therefore, it would have been obvious to a person skilled in the art at the time of the invention to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Claim 22 is a method as described in claim 17 wherein said first transport stream and said second transport stream are the same. For examination purposes, the examiner interpreted the claim as reading, "wherein the first transport stream and said second transport stream are different," because if they are the same, then a channel change has not occurred. Thus, the claim is rejected on the same grounds as claim 17.

Claim 25 is a method as described in claim 23 wherein said second decoder is a spare decoder and wherein said second program is a predicted next program. This is disclosed in Reitmeier, Claim 2. This claim is rejected on the same grounds as claim 21.

Claim 27 is a method as described in claim 23 further comprising: using a second tuner and a third decoder to access and decode a second transport stream associated with a second frequency; and displaying in a picture-in-picture area of a display screen, a program associated with said second transport stream. This is disclosed in Reitmeier, column 4, lines 34-37. Therefore, it would have been obvious to one skilled in the art at the time of the invention to use multiple tuners. It would be desirable to use as many



tuners as were available, so as to maximize the number of buffered channels and increase the likelihood of decreased channel change time. Also, dedicating the second transport stream to picture-in-picture would have been a desirable feature because it allows a viewer to keep track of what is happening on two channels at once, and if the second data stream is available for viewing, it is very simple to display it in the picture-in-picture area.

Claim 28 is a method as described in claim 26 further comprising: using a third tuner and a third decoder to access and decode a third transport stream associated with a third frequency; and displaying in a picture-in-picture area of a display screen, a program associated with said third transport stream. This is disclosed in Reitmeier, column 4, lines 34-37. This claim is rejected on the same grounds as claim 27.

Claim 29 is a method as described in claim 26 wherein said second program is a predicted next program further comprising: using a third tuner and a third decoder to access and decode a third program wherein said third program is a predicted next program. This is disclosed in Reitmeier, Claim 2. Therefore, it would have been obvious to a person skilled in the art at the time of the invention to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Taylor whose telephone number is (571)270-3755. The examiner can normally be reached on 8am-5pm, M-F, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Josh Taylor/  
Examiner, Art Unit 4157  
/ABUL K. AZAD/  
Primary Examiner, Art Unit 2626